

FORCE XXI:

What are the Risks of Building a High Tech, Narrowly Focused Army?

A Monograph
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Infantry



19960924 018

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Second Term AY 95-96

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ABSTRACT

FORCE XXI: WHAT ARE THE RISKS OF BUILDING A HIGH TECH, NARROWLY FOCUSED ARMY? by MAJ Brian D. Jones, USA, 52 pages.

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Although cognizant of the requirements for modernization to meet threats throughout the spectrum of conflict, Force XXI is aimed at a very narrow portion of the upper end of that spectrum. TRADOC Pamphlet 525-5, while providing a comprehensive summary of the dangers emerging in the last part of this century, fails to adequately address how the Army will deal with the entire spectrum of conflict. The battle dynamics explained in the text are centered on traditional, conventional warfare. OOTW is initially addressed, but its presence is marginalized in favor of discussion of conventional battle. A review of programmed expenditures illustrates the Army's almost total dedication to the high end of the spectrum; the traditional form of combat that some critics assert is the least likely to occur in the near future.

The concentration of resources on this very narrow slice of the spectrum of conflict does not come without a corresponding cost. Assessing that cost is the crux of the Army leadership's modernization dilemma. Judging where along the spectrum of conflict to accept risk is an infinitely difficult process. Balancing that risk between present force requirements and future force vulnerabilities further complicates the equation.

The risk of building a high tech, narrowly focused army often only becomes apparent in hindsight. The risk to the nation may or may not be measured in the failure to achieve national interests due to the type of force it fields. Likewise, the risk to the force may or may not be measured in initial defeats and increased casualties due to its narrow doctrinal and modernization focus. The senior leadership of the Army is continually asked to balance the competing demands of risk to the force and risk to the nation. In the past, this task was made easier by the fact that risk to the force did not automatically equate to risk to the nation. The proliferation of emerging technologies is re-writing that equation. Yet, there are methods available to mitigate the amount of risk which the Army and the nation must accept. Changes in the Army's approach to doctrine, leader development, force structure and risk acceptance are required to ensure that the risks arising from temporal issues, symmetry, versatility and the failure to achieve national objectives are reduced.

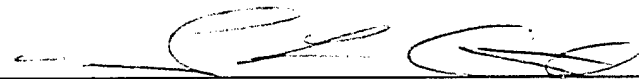
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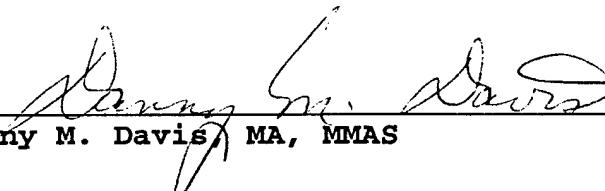
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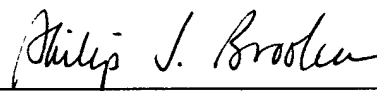
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Accepted this 23d Day of May 1996

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**Know the enemy and know yourself; in a hundred
battles you will never be in peril. ¹**

I. Introduction.

Sun Tzu's sage advice has never been more applicable, nor more difficult to follow, than in today's strategic environment. Evolving changes in the strategic environment have left the United States without the familiar, and now seemingly comfortable, framework of the bipolar world. The unrestrained participation of newly empowered political factions in the "New World Order" has rendered the etiquette of Cold War politics obsolete. These environmental changes have resulted in a dramatic new orientation for the United States Army.

During most of the Cold War, the Army defined itself by its ability to fight a very particular kind of war (intense, mechanized battles), at a particular place (on the plains of Central Europe), and in a particular manner (as part of a well-defined, long standing international alliance). That core mission, and with it a way of life, has disappeared for good. ²

To accommodate the changes in the strategic environment, and in response to internal domestic political realities, the Army revised its keystone doctrine. As a result, the 1993 version of Field Manual 100-5, Operations, shifted the Army's focus from a forward deployed force to a power projection force. It also re-emphasized the importance of operations at the lower end of the spectrum of conflict, which it termed "Operations Other Than War" (OOTW). ³

Changes in the strategic environment are not only occurring at the political level. The strategic environment is also being shaped by rapid technological advances. The Military-Technical Revolution (MTR) anticipates an entirely new approach to warfare based on the impact of emerging technologies. These technologies promise to

exponentially increase the capabilities of present weapons systems. The possibility of a wide range of international actors possessing weapons of vastly increased capabilities means that the US Army must aggressively prepare for the future.

International arms sales make high-tech weapons available to any customer who can afford them. These sales significantly increase a third world military force's ability to fight at extended ranges with increased accuracy and lethality, thereby compounding the problems of an intervention force. A sampling of this proliferation includes China's sale of short range theater ballistic missiles to Iran, Libya and Syria; The Commonwealth of Independent States' sale of T-72s to Syria, SA-16s to North Korea, submarines to Iran, and, T-80s, ATGMs, and SAMs world wide. Currently 18 countries have advanced precision guided munitions; by early in the next century, that number is expected to grow to over 40. Those who would consider threatening US global interests are hard at work buying the hardware that they will need and learning their lessons from the Gulf War.⁴

Responding to the realities imposed by these political and technological changes, the Army established a program to examine their implications for future warfare. This program, christened Force XXI, is attempting to redesign the Army around emerging technologies to produce a smaller, leaner combat force able to dominate any potential future opponents.⁵

Force XXI is actually a combination of doctrinal discussion, simulation-based experimentation, and weapon system acquisition. Notwithstanding politically motivated implications, it is meant to be an exploratory approach to the future force. The former Army Chief of Staff has described the program as more of a journey than a destination.⁶ Despite its conceptual overtones, Force XXI is currently physically manifested in both a doctrinal publication and in the Army's modernization plans. Training and Doctrine Command (TRADOC) Pamphlet 525-5, Force XXI Operations, contains the Army's initial effort at defining the probable nature of the future strategic environment and the

technological acceleration that can be expected. It outlines the Army's concept for conducting war in the future, and provides a conceptual framework for the types of weapons and systems the Army will need to counter the diverse nature of future threats.

The Army Modernization Plan (AMP) lists the specific weapons systems and programs the Army plans to fund for the next five years and, in theory, closely reflects the requirements forecasted in the TRADOC publication. Much as it did in fielding the forces capable of executing its AirLand Battle doctrine, the Army intends to prepare itself for the diverse threats of the future by ensuring its doctrine and weapons acquisition program are mutually supporting.

The diversity of the future strategic environment requires that Force XXI be a capabilities-based force. Lacking a single, powerful foe to concentrate its preparations against, the Army must address the broad capabilities of numerous potential opponents. A capabilities-based force is designed to operate effectively throughout the entire spectrum of conflict. It must be equally capable of producing decisive victory with low casualties in high-intensity warfare, and in accomplishing the successful performance of missions at the lower end of the spectrum. Developing such a force is difficult.

The goal is to modify and create technologies and force structures within the overarching doctrinal framework that adds to warfighting effectiveness, while enhancing, or at the very least not diminishing, OOTW capabilities.⁷

To maintain an army with the necessary versatility to perform such diverse missions, the fiscal requirements for modernization must be carefully balanced against the fiscal requirements necessary for sustaining the force at hand. In addition, the modernization

effort itself must adequately address the force's needs across the entire spectrum of conflict.

Although cognizant of the requirements for modernization to meet threats throughout the spectrum of conflict, Force XXI appears aimed at a very narrow portion of the upper end of that spectrum. TRADOC Pamphlet 525-5, while providing a comprehensive summary of the dangers emerging in the last part of this century, fails to adequately address how the Army will deal with the entire spectrum of conflict. The battle dynamics explained in the text are centered on traditional, conventional warfare. OOTW is initially addressed, but its presence is marginalized in favor of discussion of conventional battle. This failure is paralleled in the Army Modernization Plan (Update FY 95-99). A review of the programmed expenditures illustrates the Army's almost total dedication to the high end of the spectrum; the traditional form of combat that some critics assert is the least likely to occur in the near future.

The concentration of resources on this very narrow slice of the spectrum of conflict does not come without a corresponding cost. Assessing that cost is the crux of the Army leadership's modernization dilemma. Judging where along the spectrum of conflict to accept risk is an infinitely difficult process. Balancing that risk between present force requirements and future force vulnerabilities further complicates the equation. Finally, the ever present threat of the "dreadnought factor," the possibility that another nation may develop a dramatic technological leap that renders years of research and investment obsolete, looms over every modernization decision.⁸

Determining the implications of the Army's current modernization program is the focus of this monograph. The primary research question is: What are the risks of building a narrowly focused, high technology army? To determine the answer to this question, four subordinate research questions are answered. First, the monograph answers: How does TRADOC Pamphlet 525-5, currently envision the future strategic environment? Examining how the Army envisions the future environment provides key insights into how the Army intends to prepare for the threats it associates with the future strategic environment. The Army's concept is compared and contrasted with other views available on the subject. The second supporting question this monograph explores is: How do TRADOC Pamphlet 525-5 and the Army Modernization Plan focus on the higher end of the spectrum? Chapter Three of TRADOC Pamphlet 525-5 is entitled "Future Land Operations." An analysis of this chapter to determine its applicability throughout the spectrum of conflict provides insights into the conceptual direction the Army is adopting. This analysis is followed by an examination of the Army Modernization Plan (Update FY 95-99). Examining the Army's programmed expenditures, while considering recent changes due to budget adjustments, illustrates the Army's equipment modernization focus. The third subordinate question is: How can the risks associated with such a narrowly focused modernization be measured? They cannot be measured only in terms of casualties. An Army assumes modernization risks in a temporal sense, in versatility, in opportunity cost and, most seriously, in failure to achieve national objectives. This monograph will ascertain the risks of concentrating the modernization effort on such a narrow portion of the spectrum of conflict, and examine the meaning of

these risks to the force. The final subordinate question to be addressed is: Is Force XXI expending resources against the most likely threat or the most dangerous threat? This question carries the implication that the most likely threat is not the most dangerous threat. That may not be the case. Additionally, the threat most dangerous to the force may be the threat that is least dangerous to the nation's vital interests. Those two aspects of the threat need to be explored in order to properly assess the Army's modernization efforts.

The information gained in answering the four subordinate research questions facilitates answering the primary research question. Implications and conclusions concerning the risks associated with the Army's current modernization focus are offered.

The intended audience of this monograph is force developers and doctrine writers. In exploring the direction of the Army's modernization effort, this monograph will either confirm the wisdom of the present approach or recommend methods to mitigate the risks associated with this approach. Either way, this monograph is intended to provide additional considerations for those who have the difficult job of building the future Army.

This monograph is limited in that it will not attempt to explore the intricacies of the Army budget process. It will not provide a point by point summary of TRADOC Pamphlet 525-5, Force XXI Operations. Finally, it does not comment on the internal political environment that continues to shape the draw down.

**Like the French in 1940, we were superbly ready: they for
World War I, and we for another Korean war.** ⁹

II. The Future Strategic Environment.

As Jeffrey Record's observation of America's entry into Vietnam indicates, there are few occurrences more disastrous than showing up prepared to fight the wrong kind of war. His anecdote demonstrates the critical importance of correctly assessing the strategic environment and ensuring a nation's armed forces are capable of attaining its political goals within that environment. An accurate assessment of the strategic environment can be critical to both a nation's political credibility and its very survival.

The evolving pattern of post-Cold War political, economic, and military interactions remains a subject that elicits numerous commentaries. The collapse of the Soviet Union has been accompanied by several different perspectives concerning the world's political future. Not all of these predicted futures are bright; and virtually none of them foresees any lessening in the frequency or ferocity of warfare in the coming century. Examining the theories of four prominent writers facilitates drawing comparisons and contrasts between their theories and the Army's view of the future strategic environment. The Army's view is articulated in TRADOC Pamphlet 525-5, Force XXI Operations: A Concept for the Evolution of Full-Dimensional Operations for the Strategic Army of the Early Twenty First-Century. This examination will enable the establishment of a basis of comparison on which to evaluate the Army's modernization agenda.

Samuel Huntington offers a unique theory for the pattern of conflict that will emerge in the post-Cold War era. His fundamental premise is that the conflicts in the new world

order will not be ideological or economic. He believes that the great division among mankind and the dominating source of future conflicts will be cultural.¹⁰ He identifies eight or possibly nine civilizations around which the world will fracture and coalesce; Western, Confucian, Japanese, Islamic, Hindu, Slavic-Orthodox, Latin American, and possibly African. Huntington bases this premise on several observations. He believes that civilizations signify basic differences amongst peoples that defy superficial ideological redressing. He feels that as the world grows increasingly smaller and interaction between these basic groups increases, frictions will also surface. The pressures exerted by economic modernization and social changes will separate people from their long-standing cultural identity and multiply these frictions. Huntington posits that these factors will contribute to a growing consciousness of one's affiliation to a particular civilization which will, in turn, manifest itself in additional cross-cultural friction. As this friction increases, cultural differences and characteristics will become increasingly less mutable and harder to resolve. Finally, he believes that the growing importance of economic regionalism will reinforce and strengthen civilizational homogeneity, causing similar cultures to bond together to face external threats.¹¹

Huntington sees the behavior of Western nations as a primary factor in provoking adverse responses from other civilizations. He bases this assertion on the West's propensity to practice various forms of cultural imperialism.¹² This behavior is characterized by subtle economic forces, the promotion of self-righteous liberal values, and cultural arrogance; traits which he believes leave the West vulnerable to cultural isolation.

In summary, Huntington's future world is a violent, ceaseless collision of civilizations that predicates future war upon cultural competition.

The clash of civilizations thus occurs at two levels. At the micro-level, adjacent groups along cultural fault lines between civilizations struggle, often violently, over control of territory and each other. At the macro level, states from different civilizations compete for relative military and economic power, struggle over control of international institutions and third parties, and competitively promote their particular political and religious values.¹³

His vision of the future is of a world that will grind incessantly along cultural fault lines to produce constant warfare. The strategic environment he portrays is one in which the reliance on intra-civilization coalitions will be the key to maintaining a civilization's existence, if not its dominance.

TRADOC Pamphlet 525-5 incorporates many of Huntington's views. In discussing the elements of instability present in the international strategic environment, the Army pamphlet explores the impact of balance of power problems at the pan-national, subnational, and regional levels. It discusses the effects of nationalism and its role as a leading cause of inter- and intra- state conflict. Finally, it recognizes the advent of cultural alignments and examines the cultural rejection of the West, while highlighting the cross border ramifications this may elicit.¹⁴

Huntington's premise offers tremendous insights into the sociological dimensions of the future strategic environment. However, nothing that he postulates would cause Army force designers to weight the development of the future force towards any particular end of the spectrum of conflict. (See Appendix A) He examines the possible ends of cultural conflict, but does not explore the means. In Huntington's future world, military force

will undoubtedly be required, but the structure and use of that force cannot be determined solely from the theory he offers.

A second theory of the emerging strategic environment, one that draws upon Huntington's view, is offered by Robert Kaplan. Kaplan's view of the future world is far more ominous than Huntington's. In his opinion, worldwide demographic, environmental, and societal stresses will combine to unleash a criminal anarchy which will emerge as the primary strategic threat.¹⁵ He cites Somalia as an example of the manifestations of these stresses, and believes that understanding them will provide insights into the future.

To understand the events of the next fifty years, then, one must understand environmental scarcity, cultural and social clash, geographic destiny and the transformation of war.¹⁶

Kaplan supports his premise by examining each of these stresses and positing their potential long-term effects. His theory, by discussing such different possible factors that may effect the emerging strategic environment, provides additional depth to an understanding of that environment.

Kaplan's discussion of the role of environmental scarcity in the future world is alarming. He foresees the competition for the earth's basic resources, those remaining uncontaminated by industrial or human waste, as the key problem facing future governments.

The political and strategic impact of surging populations, spreading disease, deforestation and soil erosion, water depletion, air pollution, and possible, rising sea levels in critical, overcrowded regions like the Nile Delta and Bangladesh-developments that will prompt mass migrations and, in turn, incite group conflicts-will be the core foreign-policy challenge from which most others will ultimately emanate, arousing the public and uniting interests left over from the Cold War.¹⁷

Noting that over the next fifty years, 95% of the world's population growth will occur in the poorest regions of the world, Kaplan foresees this population explosion exacerbating problems concerning resource competition.¹⁸

Kaplan predicts that geographic destiny, a product of a nation's location and the availability of its natural resources, will emerge as an influential factor in the future world. Nations with a bleak geographic destiny are those that have little of value, either in services or raw materials, to offer to the more developed trading nations. As Kaplan sees it, the same regions that have bleak geographic destinies, typified by many of the current sub-Saharan African states, are the very nations least able to offer their citizens any of the basic benefits of government; benefits often taken for granted by many in the West. This will facilitate the rise and sustainment of anarchy, as a population with little hope of social mobility through legal means will resort to crime as the only means available to raise its standard of living.

Overlaid on the problems generated by these environmental factors will be a cultural clash similar to that described by Huntington. Yet, Kaplan's view on the manifestations of this clash again has darker overtones. He envisions a world divided between the technologically advanced civilizations of the West, and the less technologically developed civilizations of the remaining world.

We are entering a bifurcated world. Part of the globe is inhabited by Hegel's and Fukuyama's Last Man, healthy, well fed, and pampered by technology. The other, larger, part is inhabited by Hobbes's First Man, condemned to a life that is "poor, nasty, brutish, and short."¹⁹

Into this other, larger, part will be injected the worst influences of western culture.

Although Huntington refers to the presence of cultural imperialism, Kaplan describes it in a manner that evokes images of gang warfare gone mad. He uses the analogy of a "last man" gazing out the window of a stretch limousine as it traverses a world best characterized as a polluted, crime infested ghetto.

Outside the stretch limo would be a rundown, crowded planet of skinhead Cossacks and *juju* warriors, influenced by the worst refuse of Western pop culture and ancient tribal hatreds, and battling over scraps of overused earth in guerrilla conflicts that ripple across continents and intersect no discernible pattern-meaning there's no easy to define threat.²⁰

Kaplan's reference to guerrilla conflicts provides a concrete, powerful illustration of the lawlessness he envisions. It also provides Army planners with an example of the nature of Kaplan's future strategic environment. However, he does not stop here. The current concept of guerrilla conflict is that it is waged over legitimacy or limited political objectives. Kaplan postulates that future guerrilla-type warfare will be waged not for a political end but, rather, as a way of life.

The intense savagery of the fighting in such diverse settings as Liberia, Bosnia, the Caucasus and Sri Lanka-to say nothing of what obtains in the American inner city-indicates something very troubling to those of us inside the stretch limo, concerned with issues like middle-class entitlements and the future of interactive cable television, lack the stomach to contemplate. It is this: a large number of people on this planet, to whom the comfort of a middle class life is utterly unknown, find war and a barracks existence a step up rather than a step down.²¹

This is the transformation of war which Kaplan predicts awaits, and whether this is an actual transformation of war or merely a cyclical period of instability is immaterial--he sees the future strategic environment as a world dominated by anarchy. Portions of society will disintegrate, with those fiefdoms capable of protecting themselves forming

protectorates similar to ancient city-states. Those not fortunate enough to be secured safely inside the city "walls" will be abandoned to their fate at the hands of the "barbarians." He summarizes:

Future wars will be those of communal survival, aggravated or, in many cases, caused by environmental scarcity. These wars will be subnational, meaning that it will be hard for states and local governments to protect their own citizens physically. This is how many states will ultimately die. As state power fades and with it the state's ability to help weaker groups in society, not to mention other states-peoples and cultures around the world will be thrown back upon their own strengths and weaknesses, with fewer equalizing mechanisms to protect them.²²

Kaplan's powerful imagery, depicting the dissolution of the very fabric of society, succeeds in offering a more complete, though pessimistic picture of the possible future strategic environment.

As with Huntington, TRADOC Pamphlet 525-5 incorporates many of Kaplan's views. Discussed in the pamphlet under the heading of elements of instability, the potential problems arising from environmental risk and demographics are specifically mentioned. The pamphlet also discusses the possibility of ungovernable regions arising due to the spread of general lawlessness, a lawlessness fueled by both the scarcity of resources and the inadequacies of governmental rule. Competition for economic, military, and political power amongst the developed countries and the possibility of conflict over the control of information are also topics covered in the TRADOC publication.²³

Like Huntington, Kaplan's vision is also largely sociological. He anticipates a world in which local violent action is used to secure what few advantages can be gathered in the less developed, over-populated regions of the world. This would seem to indicate that forces designed for the lower end of the spectrum of conflict, those able to operate

effectively within populated, urban “jungles” would be required. However, in postulating the occurrence of anarchy outside the city-state “walls,” he elects not to address what would occur should the city-states themselves go to war. This means that even if Kaplan’s views were accepted, the requirement for forces capable of performing missions at the upper end of the spectrum cannot be dismissed summarily. Additionally, like Huntington before him, he offers no perspectives on the type of conflict he sees swirling around or between his stable international actors. To gain a better perspective on this aspect of the future strategic environment, a third source requires review.

Probably no authors appear to have had a greater influence on the course of the future Army than Alvin and Heidi Toffler. In War and Anti-War, the Tofflers provide their vision of the effects of accelerating technological change on the world’s sociological order. The Tofflers envision the civilizations of the world as the product of three dynamic waves. The collision of these respective waves determines the structure and nature of human interaction and is the source of constant conflict. They believe the first two waves, the Agrarian and Industrial waves, currently coexist in the world and are largely based upon modes of production. Agrarian societies, based largely on the export of raw materials and agricultural economies, form the members of the Agrarian wave civilizations. Industrial wave civilizations are those that have developed industrialized, mass production economies. The Tofflers believe that a third wave is now emerging, a wave based upon the use of information technologies.

In fact, once we grasp the wave theory of conflict, it becomes apparent that the biggest shift of power now beginning on the planet is not between East and West or North and South, nor is it between different religious and ethnic groups. The deepest economic and strategic change of all is the coming division of the world into three distinct, differing, and potentially clashing civilizations.²⁴

Information is the Tofflers' new arbiter of civilizations. Although they concede that the civilizational strife mentioned by Huntington and the dissolution of law abiding societies discussed by Kaplan are also occurring, the Tofflers feel that the ability to control information will both define and accelerate the changes in the future strategic environment. The world will move from its current bisected form to a trisected environment, divided by membership in one of the three waves, with future conflicts arising as nations attempt to move from one wave to another.²⁵

Unlike the earlier authors, the Tofflers venture into the military ramifications of their knowledge-based civilizations. They recognize the bewildering diversity of separatist wars, ethnic and religious violence, coup d'etats, border disputes, civil upheavals, and terrorist attacks which are likely to push masses of poverty stricken, war riddled immigrants (and hordes of drug traffickers) across national borders.²⁶ Over this jagged puzzle of instability, they superimpose information technologies that will provide the various actors the ability to generate a tremendous amount of political, economic, and military leverage over their rivals.

The anticipated impact of information technology on this situation provides ample points for consideration by force developers. The Tofflers see information technologies as providing an enormous amount of diverse capability to future threats. In fact, the Tofflers suggest that the threat will become so diverse, that no nation will be able to create or afford the omni-capable military able to effectively counter the totality of the capabilities presented. At best, the Tofflers argue that countries can attempt to gain a

division of labor by creating modular forces that can be aligned with allies to counter the multitude of threats that may be presented along the spectrum of conflict.²⁷

TRADOC Pamphlet 525-5 follows the Tofflers' argument to a point. It assesses the impact of information technologies, exhibited (in part) by the proliferation of weapons of mass destruction and the competition to dominate space, as the most serious challenge to U.S. military superiority.²⁸ It clearly recognizes information technology as an element of instability and admits to the complexities that information operations will insert into the future strategic environment. However, while recognizing the increased potential of future adversaries, TRADOC Pamphlet 525-5 does not echo the Tofflers' sentiments concerning the ability of states to counter these threats. Knowledge must become capability, and the TRADOC pamphlet holds that mere access to technology does not automatically equate to increased military capability.

TRADOC Pamphlet 525-5 fully realizes the diversity and potential capabilities of the future threat. It incorporates the images of the future strategic environment offered by these four authors, and others, and develops these images into a model for the future. The Threat Spectrum Model (See Appendix B) outlines the various threats that can be expected in the future strategic environment. In this model, the Army acknowledges the requirement and utility of military forces in responding to phenomenological acts. It recognizes the challenges posed by Kaplan and Huntington's view of the future world by detailing the probable existence of non-national or niche actors (to include subnational, anational, and metanational actors) as destabilizing regional factors. It contains a discussion on the probable existence of internal security forces, infantry-based armies,

and armor-mechanized-based armies as potential future foes. It also considers that all or some of these forces may be enhanced by horizontal technological integration, and continues by considering the impact of various aspects of the Tofflers' predicted information technologies on their emerging capabilities. Finally, it posits the existence of informationally enhanced opponents, which it terms "complex, adaptive armies," which will be capable of generating tremendous amounts of combat power with a comparatively smaller force.²⁹

In summarizing its view of the future strategic environment, TRADOC Pamphlet 525-5 specifically addresses its vision of both future combat and future threats. It reiterates the conventional wisdom that future combat, as has been the case throughout history, will be heavily impacted by the ability to integrate technology with doctrinal change. The difference is that the accelerated rate of technological advance, (e.g., information technology is expected to make a thousand fold advance over the next twenty years), will increase the pace of this process exponentially.³⁰ As such, it envisions the gamut of warfare running from OOTW to general war, with the upper end of the spectrum of conflict characterized by complex, adaptive armies which will carry the characteristics of the Desert Storm battlefield forward to a new level.³¹

The future threat assessment is perhaps the most intriguing segment of this chapter on the future strategic environment. First, it flatly asserts that most of the future conflicts involving the U.S. Army will be OOTW or low intensity conflicts. However, it warns that the specter of open war against advanced, armor-mech-based armies cannot be discounted. Second, it states that assessing the future threat should be bounded by two

principles: their ability to buy and integrate weapons and technology, and the fact that most states will arm primarily for regional threats. Finally, it states that the difficulty of assessing nonnational threats must be fully explored and improved upon to ensure added security for U.S. interests.³²

TRADOC Pamphlet 525-5 captures the sociological ideas of Huntington and Kaplan, and fuses them with the socio-technological theories of the Tofflers to produce a comprehensive view of the possible future strategic environment. Examining the thoughts of other authors such as John Keegan, Andrew Krepinevich, Sam Sarkesian and A. J. Bacevich gives no reason to abridge the Army's view of the future strategic environment.³³ Notwithstanding that the intent of future actors cannot be divined, the picture of the possible capabilities of current or emerging threat actors is as complete an assessment as can be assembled.

What does this all mean? It means the Army apparently has as good a concept of the possible future strategic environment as is available. It understands the varied and confusing forces that will attempt to exert their influences on the emerging strategic environment. The Army also appears to fully grasp the fact that technological advances will interject a unique type of diversity into the traditional form of the spectrum of conflict. This diversity will manifest itself by increasing the amount of risk posed to a nation at a multitude of levels within the spectrum of conflict. Not only will conventional, high-end conflict be able to threaten a nation's vital interests (or very existence); but, the ability to leverage information technologies may enable less traditionally threatening types of conflicts to significantly influence a nation's vital

interests. The lower end of the spectrum of conflict, those portions that were once considered lower risk, may mutate through technological advancements to make their impact indistinguishable from results traditionally associated with the higher end. (See Appendix C)

Given the TRADOC Pamphlet's position that OOTW and low intensity conflict will be the primary challenge in the near future, albeit slightly caveated, the Army's future structure and modernization azimuth would seem clear. However, building a capabilities-based force requires careful consideration of the entire spectrum of conflict, and it is a generally accepted rule - and a budgetary reality - that to prepare a little everywhere is to prepare well nowhere. Risks in modernization must somehow be aligned with the risks expected within the spectrum of conflict. Although the TRADOC pamphlet believes that OOTW and low intensity conflict are the most probable near-term threats, it does not assert that they are the highest threats to the nation's vital interests. This causes confusion, and is a huge contributor to the appearance that the Army's vision of the future strategic environment does not appear to align with its modernization effort. Examining the Army's concept for future land operations and its current modernization plan will clearly illustrate where along the spectrum of conflict, and in what manner, it is willing to accept risk.

If you build it, they will come. ³⁴

III. Force XXI: Building for Desert Storm II?!

In retrospect, it is almost inconceivable that Saddam Hussein seemed eager to fight the U.S. led coalition in a scenario that played to the American military's strong suit, while accentuating the weaknesses of his own forces. It was a situation that American force designers in the early 80's could not have hoped for in their most cooperative planning scenarios. It is not likely to occur again. The success enjoyed in Desert Storm will cause potential enemies to search for more creative ways to defeat American forces. They will avoid engaging the Americans at the middle and upper ends of the spectrum of conflict at all costs. This makes the Army's concept for future land operations and its modernization plans all the more critical. Examining these areas reveals how the Army is preparing to operate within the spectrum of conflict and reflect where it intends to accept risks.

Although TRADOC Pamphlet 525-5 is not the only document that impacts on force development, it expresses the Army's views on the type of forces it anticipates will be required. Chapter Three of this document, entitled "Future Land Operations," defines the five unifying concepts of Force XXI. It concludes that doctrinal flexibility, strategic mobility, tailorability and modularity, joint, multinational and interagency connectivity, and versatility in war and OOTW, are central to Force XXI's design. These requirements illustrate how the Army believes its future force meshes with its sister services into the larger picture of national defense.

Following this introduction, the pamphlet explores the intellectual rationale behind developing a set of battle dynamics on which to base future force development.

These battle dynamics give us a framework to describe change and to begin our experimentation with hypothesis that predict outcomes to be confirmed in such experiments. These experiences, combined with our understanding of the evolving strategic environment and the emerging National Security Strategy, help shape our vision of twenty first century American military operations.³⁵

In short, the battle dynamics are the conceptual parameters around which the future force will be defined, modeled and tested. Conversely, they are also the parameters around which the future force may be limited, or directed towards a particular portion of the spectrum of conflict. It is at this early stage that the Army creates a tension between the intended design of the future force and the requirements mandated by its own assessment of the future strategic environment. In spite of the anticipated strategic environment, battle dynamics are selected which dictate the development of a high technology force narrowly focused on the mid- to high-intensity portion of the spectrum of conflict.

Battle command, defined as the art of decision making, leading and motivating informed soldiers and their organizations to accomplish missions, is the first battle dynamic discussed. TRADOC pamphlet 525-5 envisions future battle command as the sum of a multitude of inputs: competent leadership, information technologies allowing a common, relevant picture, an enhanced situational awareness, internettted information for more efficient coordination of the Battlefield Operating System (BOS), flatter organizations, advanced intelligence systems, spectrum supremacy, and the fusion of the available intelligence architecture.³⁶ Although the diagrams used to portray the various components of battle command depict a conventional application, the concept of battle

command applies equally well throughout the spectrum of conflict. Battle command is, at its heart, an attempt to enhance the command and control of units by integrating the anticipated leverage provided by the emerging information technologies. Its benefits apply equally to all facets of future war, and across the spectrum of conflict.

The battle dynamic of battlespace is intended to correlate the area dominated by the capabilities of a force with a three dimensional volume of space. A given area of battlespace is dominated by the fewest number of friendly troops, with the stated caveat that in OOTW the reverse may be the case.

This conceptual construct of battlespace will give future joint commanders a coherent vision of a fully integrated, full-dimensional battlespace and permit simultaneous engagements of targets by a greater variety of joint warfighting systems.³⁷

The concept of battlespace is included as a precursor to the requirement for depth and simultaneous engagement. It is envisioned as enabling the commander to control an expanded area of operations, a necessity given the increased ranges and lethality of available or projected joint weaponry. The idea that battlespace may provide equal utility for visualizing the OOTW battlefield is included as an afterthought. Expanded battlespace facilitates dominating the enemy at great distances in a mid- to high-intensity conflict. In TRADOC Pamphlet 525-5, the utility of battlespace in an OOTW scenario is limited to “visualizing an area of operations.” It does not articulate fully its applicability in an urban, non-combatant filled OOTW setting.³⁸ This conceptual limitation begins to illustrate the orientation of the battle dynamics towards the upper end of the spectrum of conflict.

The pairing of depth with simultaneous attack comprises the third battle dynamic discussed in TRADOC Pamphlet 525-5. The intent of this dual dynamic is to allow the commander to influence the enemy directly throughout the width, height, and depth of his battlespace; providing the ability to stun, then rapidly defeat the enemy.³⁹ It is the concept of parallel attack being applied to the extended battlefield fight envisioned by General Starry in 1979.⁴⁰ In the future, the “shaping of the battlefield” that Starry envisioned applying to ensuing echelons, will be applied throughout the depth of the enemy’s battlespace and will occur nearly simultaneously from a variety of joint platforms. It will result from technological improvements in battlespace preparation, synchronization, simultaneous attack execution, and force projection. This dynamic is built upon the ability to acquire the target arrays normally associated with mid- to high-intensity conflict. It is conceived as a means to destroy them rapidly at extended range thereby enhancing the protection of the friendly force.

Although the concept of conducting simultaneous operations in depth in OOTW scenarios is introduced, the illustrations of its applicability are not compelling. The idea that the rapid introduction of a force for disaster assistance and peacekeeping operations is depth and simultaneity weakly equates the intent to rapidly establish physical control over an area with the intent of dominating an enemy’s entire battlespace. The intent associated with domination is the central, and much more powerful, capability. The idea that the principle of simultaneity and depth applies to OOTW in a limited sense cannot be denied. However, fully five-sixths of the discussion of this dynamic revolves around acquiring and destroying arrayed enemy forces--a predominantly non-OOTW application.

This battle dynamic, although paying slight homage to OOTW applications, is conceptually oriented towards the upper end of the spectrum of conflict.

The fourth and fifth battle dynamics, early entry and combat service support, apply equally across the entire spectrum of conflict. Early entry stresses the Army's reliance upon force projection, and is a reality of the future strategic environment that cannot be ignored in developing the future force. Combat service support, also an area closely related to force projection, is a force multiplier in which efficiencies are vital to the composition and support of the future force.

Of the five battle dynamics, three are applicable across the entire spectrum of conflict. Battle command, early entry, and combat service support are principles required of the future force no matter what its intended spectrum orientation. The final two dynamics, battlespace and the dual dynamic of depth and simultaneous attack, are narrowly focused on mid- to high-intensity combat. Although these dynamics can accommodate the requirements of OOTW, however superficial that accommodation may seem, the synergy of their combined effects is not fully maximized in that scenario. They are dynamics which are designed to leverage information and share knowledge in order to detect and destroy a conventional enemy force before it poses a significant threat to friendly forces. They are dynamics that presuppose a detectable enemy target array, whether in echelon, dispersed, or massing at distant points. They are dynamics that presuppose an enemy which possesses the traditional, vulnerable physical trappings of conventional military power, such as tanks, artillery pieces, and aircraft. They are dynamics that presuppose spectrum control, if not supremacy, and a host of other asymmetrical technological

advantages. Finally, they are dynamics that mandate the existence of a force designed to execute their unique information and lethality requirements.

The future battlefield framework is narrowly focused on the middle and upper ends of the spectrum of conflict. The statement in TRADOC Pamphlet 525-5 that “battle between mechanized forces [e.g. mid- to high-intensity conflict] will be similar to armored operations of the past three decades” underscores the Army’s perception that preparation to dominate that particular type of warfare remains the imperative modernization path for the future.⁴¹ In this statement, the Army subtly reveals that it continues to remain willing to accept risk at points on the spectrum of conflict below that level. An examination of the 1994 Army Modernization Plan (Update FY 95-99) reinforces this interpretation.

Despite the continued impact of budget adjustments, the United States Army Modernization Plan outlines the direction of the Army’s modernization efforts over a five year period. The AMP is chartered to ensure that the nation has an army capable of establishing and maintaining land force dominance. Dominance is measured in the 1994 AMP by calculating force exchange ratios (FER), which assess the ratio of friendly to enemy casualties. A FER of greater than or equal to 5:1 is considered decisive, and optimal, based on numerous simulated conflicts.⁴² The 1995 Army Modernization Plan discontinued the use of the FER as a measuring tool, presumably over implications generated by defining the threat model. A comparison of the 1994 and 1995 plans illustrates that despite dropping this stated method of measuring friendly force dominance, the design of the force was not affected.

The 1994 AMP, with the FER in mind, identified five specific areas where it desires to retain overmatching technological capabilities as the force is continuously modernized. These areas include: project and sustain the force, protect the force, dominate the maneuver battle, conduct precision strikes, and win the information war.⁴³ A summary that illustrates how the Army's programmed expenditures apply to each of these areas is included in the AMP, and is reflected in Figure 1.

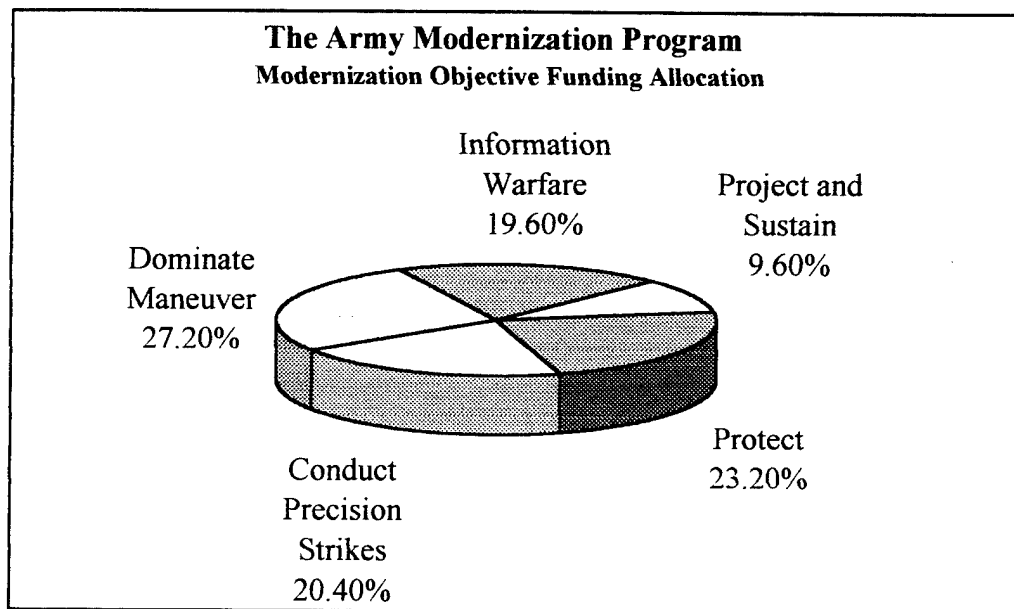


Figure 1

These modernization areas do not correlate exactly with the battle dynamics listed in TRADOC Pamphlet 525-5. However, they continue to reflect the Army's conceptual focus on the upper end of the spectrum and ensure this focus is manifested in its weapons acquisition program. Despite the numerous budget changes that have occurred since 1994, the focus of the AMP remains unchanged.

The modernization objective of project and sustain the force recognizes and resources the Army's requirements for rail movement, airlift, sealift, logistics over the shore, prepositioned afloat capabilities, and the efficient distribution of supplies.⁴⁴ It includes strategic aircraft and shipping, and a host of tactical distribution capabilities. In the 1995 request, this area receives only about 9.6 percent of the Army's total five year budget outlays. This number is deceiving in that the roughly 10.2 billion dollars in Air Force (C-17) and Navy (RO/RO) acquisition money, an amount equal to one year's worth of the Army modernization budget, is not included. When these funds are included, it can be seen that the basic requirements for power projection are being resourced. This modernization objective encompasses the TRADOC Pamphlet 525-5 battle dynamics of early entry and combat service support. It funds the means of power projection, and remains a requirement regardless of which portion of the spectrum of conflict the Army orients upon.

The modernization objective of protect the force resources the Army's efforts to detect enemy forces, integrate detection with strike capabilities, destroy enemy forces, defend against enemy air and missile attack, and survive chemical and biological contamination.⁴⁵ These programs incorporate a portion of the TRADOC Pamphlet 525-5 battle dynamics of battle space and depth and simultaneous attack. As a total, this area receives nearly 23 percent of the five year budget outlays. (This does not include the 5.5 billion dollars allocated to JSTARS, which the AMP does not break out between Army and Air Force budgets). Within this modernization objective, the program oriented towards NBC survivability receives only 12 percent of the area's funding, or only 2

percent of the Army's total programmed expenditures. The majority of the money in this area is dedicated towards defeating a mid- to high-intensity threat more efficiently, with an emphasis on Theater Missile Defense (TMD). This funding focuses on the ability to more efficiently detect the enemy, transfer target data to shooters, destroy the enemy, and protect the force against enemy long range attack. This threat is obviously envisioned as being comprised of arrayed forces with conventional arms vulnerable to detection by sensors. This further emphasizes the Army's stated belief that future mid- to high-intensity war will be similar to that of the past three decades. The low NBC funding underscores the Army's continued willingness to accept risk in this area, as it has for the last thirty years.

The modernization objective of dominate the maneuver battle sustains and improves the force that won Desert Storm. It is incorporated in the TRADOC pamphlet's battle dynamic of battlespace. It resources improvements in the M1 tank, the M2/M3 Bradley, fields the AGS (since canceled), funds aviation and fire power improvements (since adjusted to reduce the Comanche and Crusader commitment), and finances mobility and counter mobility improvements.⁴⁶ This area received 27.2 percent of the programmed five year outlays. This demonstrates that the lion's share of Army modernization funding in the next five years will go to maintaining dominance over the type of enemy army fielded in the Gulf War. Combined with the previous modernization objective, the Army budget narrowly focuses 50% of its programmed modernization funding on the middle and upper ends of the spectrum of conflict.

The fourth modernization objective, conduct precision strikes, is also incorporated in the 525-5 battle dynamic of depth and simultaneous attack. It funds C4I systems, sensors and shooters designed to destroy enemy weapons of mass destruction, enemy sensors, command and control nodes, command posts, and weapon systems.⁴⁷ This area received 20.4 percent of the programmed five year budget outlays, and the systems it contains are also designed to enhance the ability to fight a mid- to high-intensity enemy force. Combining this objective's funding with the funding programmed for the previous two objectives illustrates that fully 70% of the Army's modernization funds are focused on a very narrow portion of the spectrum of conflict.

The modernization objective of winning the information war, the battle dynamic of battle command, funds sensors, electronic warfare systems (EW), and C4I systems.⁴⁸ It received 19.6 percent of the programmed expenditures. Interestingly, given the increased reliance on the transfer of information, EW systems receive only 4.6 percent of this area's programmed funding, or less than one percent of the Army's total planned expenditures. This either fails to articulate EW capabilities contained in other systems, or demonstrates another area where the Army is assuming some risk. Similar to the modernization objective of project and sustain the force, this area requires modernization funding regardless of which portion of the spectrum of conflict the force is designed to counter.

It appears that the AMP is preparing the Army for Desert Storm II. It is funding those programs which will ensure land force dominance over a mid- to high-intensity threat, by improving the systems that dominated the Iraqis in the Gulf War and supplementing these

systems with even more powerful capabilities. It is designing a force that is dependent on sensors and long range capabilities to shape the battlefield, and on an armored-mechanized force capable of crushing its opponents in the close fight. It is building a force for a very narrow portion of the spectrum of conflict, a portion the Army concedes is not the most likely.

The focus of the Army Modernization Plan on preparing to fight a conventionally armed and arrayed enemy force is unarguable. According to Andrew Krepinevich, this has been the Army's traditional approach to modernization since the end of World War

II. He termed it the "Army Concept."

The Army Concept of war is, basically, the Army's perception of how wars *ought* to be waged and is reflected in the way the Army organizes and trains its troops for battle. The characteristics of the Army Concept are two: a focus on mid-intensity, or conventional war, and a reliance on high volumes of firepower to minimize casualties--in effect, the substitution of material costs at every available opportunity to avoid payment in blood.⁴⁹

Despite the technological impetus given to re-examining its approach to the emerging strategic environment, the Army's modernization focus appears to follow its traditional path. Even while predicting that the possibility of facing a mid- to high-intensity conflict is relatively low, the Army continues to prepare aggressively to meet that threat. It continues on this path despite the admitted reality that continuous modernization cannot be accomplished exclusive of the strategic environment.⁵⁰ This raises the possibility that the high technology force being built is oriented on the wrong type of opponent.

It's not that the U.S. military is preparing for the wrong war. It's just that there is more than one war - any single "right" war - to prepare for in the post Cold War world.⁵¹

The U.S. Army is assuming risk along the spectrum of conflict. It is building a future force in the tenuous belief that a mech-based opponent, susceptible to its high technology, will rise to face it in battle much as the Iraqi Army did. If Desert Storm taught America's opponents one fact of life, it was not to face the American military in a conventional war. To account for a more unconventional enemy, the Army is risking that its future force can both defeat a traditional enemy force in mid- to high-intensity conflict, and adapt to defeat any other type of force below its narrow band of focus on the spectrum of conflict. Given the potential impact of technology upon the spectrum of conflict, the risks associated with such an approach to modernization require a re-appraisal.

Firstly, the Viet-Minh won't succeed in getting their artillery through to here. Secondly, if they do get here, we'll smash them. Thirdly, even if they manage to keep on shooting, they will be unable to supply their pieces with enough ammunition to do us real harm.

French Artillery Commander, Dien Bien Phu ⁵²

IV. Implications: Risk acceptance or risk denial?

As Colonel Pirouth's comments concerning counter battery fire suggest, risk assessment is often an optimistic view of the capabilities and vulnerabilities of both the enemy and the friendly forces. It is the outcome of attempting to balance ways and means to meet the desired ends at the tactical, operational and strategic levels. As ways and means are constrained by numerous factors, risk must be assessed and accepted in certain areas to ensure that the requisite strength is available in other more critical areas. Traditionally, low intensity conflict carries relatively little risk to the national objectives of a world power and has been an area where modernization risks are accepted almost casually. The proliferation of weapons of mass destruction and the increased availability of powerful new technologies makes the continuation of this tradition suspect. These factors make assessing the implications associated with modernization and force development an even more critical task for a nation and its army. By tacitly adhering to an analysis based on the Force Exchange Ratio (FER), the U.S. Army quantifies the risks of modernization in terms of casualties. This approach, while easily grasped in discussions between the Pentagon and representatives on Capitol Hill, is too simplistic. There are other considerations in measuring the risks of modernization--especially a modernization and conceptual design focused on so narrow a portion of the spectrum of

conflict. Risks in symmetry, temporal issues, versatility, and in the failure to achieve national objectives must all be considered.

The risks associated with symmetry are at the heart of U.S. Army's modernization dilemma. Symmetry is a multi-faceted variable that the present modernization effort reduces to a constant. The Army's now unstated reliance on the FER is an attempt to prevent asymmetry in the nebulous area of national will. Somalia tragically demonstrated the fallacy of that approach. Yet, by focusing its modernization effort and conceptual design on such a narrow portion of the spectrum of conflict the Army appears unconcerned by other probable asymmetries. Asymmetries in strategy, in force capabilities and structure, and in political goals are marginalized in the Army's focus on mid-intensity conflict. The Army's conceptual design and modernization focus assume an enemy willing to engage in conventional warfare much like the Iraqis. It assumes the enemy force will be mech-armor based, with arrayed targets and advanced--but not dominant--technology. The current approach assumes a nation-state enemy that pursues rational, definable political goals. The Army's modernization focus and conceptual design entertain all of these assumptions in spite of its own threat assessment that speculates an asymmetrical response.

However, when faced with a large, technologically advanced army, they [the enemy] are likely to attempt to redefine the terms of conflict and pursue their aims through terrorism, insurgency, or partisan warfare. Such unconventional strategies focus on the population while attempting to retain freedom of action by avoiding combat with superior forces. They entail a protracted struggle in which unconventional forces seek to exploit favorable circumstances to inflict casualties and achieve tactical successes against high technology opponents while continuing to contest control of the population. In the case of intervention by an external power or coalition, this strategy aims to undermine the enemy's will to continue a seemingly intractable, costly conflict without the necessity of defeating his main forces on the battlefield.⁵³

The Army recognizes that the threat will seek to evade its high tech force, but continues to build it just the same. Given the politically driven, self-imposed requirement to obtain decisive victory with low casualties, the Army gives little credence to the possibility of a low intensity conflict generating a substantial amount of risk. It doubts the ability of a low intensity adversary being able to acquire, integrate and employ the technological tools that could generate a risk level commensurate with the upper end of the spectrum.⁵⁴

The recent Tokyo subway terrorist gas attacks and the ongoing construction of a huge Libyan chemical facility are examples of this type of upper end capability spreading to increasingly more irrational actors and states. (Yet, the modernization plan commits only 2% of the programmed funding in the next five years to address chemical defense).

There is a danger of cultural myopia in assessing the intent of other actors on the world stage.⁵⁵ This danger is manifested in assessing the risks of modernization. The Army's assessment of the future strategic environment recognizes that there is some amount of risk present in the asymmetry presented by a low intensity conflict. The narrowly focused modernization plan and conceptual design discount this risk. They assume that the enemy's efforts to protract the struggle will afford the Army an equal amount of time to adapt its technological advantages to the struggle. Emerging technologies make that time a much more precious commodity.

There is an aspect of time that must be considered in assessing the risk of developing a narrowly focused force that is being impacted powerfully by the emergence of new technologies. Despite the stated belief of a BCTP Senior Observer that, in OOTW, commanders and their staffs have more time to think, technology is compressing the

spectrum of conflict in terms of time and risk.⁵⁶ Access to technological advancements enables actors at all points along the spectrum to generate the high risk effects normally associated only with the upper end of the spectrum. No longer will a nation have 12 years, such as the British required in Malaya, or even the 10 years the United States remained engaged in Vietnam, to adjust to the unique aspects of low intensity conflict. Emerging technologies enable insurgents, terrorists and subversives to force immediate consideration of their agenda, while enabling them with the capability to cause extremely disproportionate civilian and soldier casualties. The time required to identify and locate the threat, usually based in a technologically obviating environment, is becoming a vanishing luxury.

A related temporal aspect is the amount of time required to reorient the force from mid- to low-intensity operations. This is a controversial issue within the Army, with leaders at all levels pointing to the failures and successes of different units in conducting this change of mission focus. This issue makes the versatility of the narrowly focused future force a modernization risk that also requires consideration.

The modernization costs associated with versatility are more complicated than they appear at first glance. Versatility is the ability of units to meet diverse mission requirements.⁵⁷ By concentrating its conceptual design and modernization efforts on such a narrow band within the spectrum of conflict, the Army maximizes its ability to fight effectively only one particular type of conflict. However, it also implicitly accepts that everything other than mid-intensity conflict, as represented by armor-mech warfare, will be fought with a degraded force capability. The amount of degradation is dependent

on the time available and the ability of the force to adjust to the conditions presented. Predicated on sensors which locate and relay information about the enemy force, the future U.S. Army accepts battle in any conditions that degrade that capability at a disadvantage. For example, mountainous terrain, crowded cities, or a highly decentralized threat do not facilitate location by sensors or the use of precision guided munitions.⁵⁸ An army designed, equipped, and indoctrinated to fight mid-to high-intensity conflict is culturally inhibited in its ability to transition to the requirements of low-intensity conflict.⁵⁹

A modernization risk closely associated with versatility is opportunity cost. The opportunity costs associated with building a force narrowly focused on mid- to high-intensity conflict is that the tools required to efficiently prosecute any other type of conflict will be not be available when they are needed. Whether these “tools” are troops cut to fund modernization programs, or weapons systems unable to adapt to low intensity conflict is immaterial. The reality is that an opportunity cost exists for every article the Army procures. A competing reality is that these opportunity costs must be based on the future strategic environment.

The acknowledged most probable threat in the future strategic environment is low intensity conflict. Yet, the Army fails to equate the most probable threat with the most dangerous threat. Relying on Clausewitz’s dictum that knowledge must become capability, the Army’s unclassified assessments do not credit potential low-intensity opponents with the ability to harness technological developments effectively. Based on this assessment, the Army maintains that the greatest threat to the nation in achieving its

objectives remains mid-intensity conflict. Realizing that the possibility for low intensity conflict is greatest, the Army believes that to build for low intensity conflict is to sacrifice the deterrent capability of a mid-intensity force.⁶⁰ This approach has a significant drawback.

Whatever technology one buys in times of penury, it is well to remember that its effectiveness will be measured as much by what people think it can do as by what it can really do.⁶¹

By investing in a force narrowly focused on mid-intensity warfare, America and its Army are loudly signaling their ability to deter that type of warfare -- while reinforcing a potential enemy's incentive to seek another form of conflict in opposing American interests. The fact that the Army may be contributing to a reinforcing loop that exploits its own vulnerabilities in the form of secondary and tertiary delayed effects is distinctly possible.

The final consideration in assessing the risks associated with modernization is the possibility that such a narrowly focused modernization will render the force incapable of accomplishing the nation's stated objectives. This is the most dangerous risk. It results from the synergistic effects of the modernization risks associated with symmetry, temporal factors, and versatility combining to prevent the Army from translating military capabilities to national objectives. It is conjecture to presuppose that the risks of narrowly focusing force modernization will result in mission failure. It is equally conjecture to presuppose that they will not.

The first, the supreme, the most far reaching act of judgment that the statesman and commander have to make is to establish by that test the kind of war on which they are embarking: neither mistaking it for, nor trying to turn it into, something that is alien to its nature.⁶²

V. Conclusions: Mitigating the risk of building a high tech, narrowly focused army.

The risk of building a high tech, narrowly focused army often only becomes apparent in hindsight. The risk to the nation may or may not be measured in the failure to achieve national interests due to the type of force it fields. Likewise, the risk to the force may or may not be measured in initial defeats and increased casualties due to its narrow doctrinal and modernization focus. The senior leadership of the Army is continually asked to balance the competing demands of risk to the force and risk to the nation. In the past, this task was made easier by the fact that risk to the force did not automatically equate to risk to the nation. The proliferation of emerging technologies is re-writing that equation. Yet, there are methods available to mitigate the amount of risk which the Army and the nation must accept. Changes in the Army's approach to doctrine, leader development, force structure and risk acceptance are required to ensure that the risks arising from temporal issues, symmetry, versatility and the failure to achieve national objectives are reduced.

Doctrinal flexibility is a prerequisite for the Army in the future strategic environment. The threat assessment contained in TRADOC Pamphlet 525-5 posits that low intensity conflict is the most probable future threat. Given this assessment, it is interesting that the doctrinal concepts contained in that pamphlet remain skewed so heavily towards conventional conflict. The upcoming FM 100-5, Operations, must continue to recognize and expand upon the diverse operations introduced in the 1993 version, while eliminating

the seductive distinction between war and operations other than war.⁶³ Yet, in spite of the near universal recognition of the importance of possessing a broad doctrine, there are limits to the range of issues doctrine can address.

A small, modern Army that relies too much on technology and machines becomes bound by those same machines. If an Army is to be successful it must not only adapt to changing technology but it also must address other issues that the technology may not alleviate. While strong, balanced doctrine may provide integration of new technology, it cannot alleviate the requirements that exist in all situations.⁶⁴

Doctrine must facilitate the reduction of the risks associated with asymmetry. It must retain a broad approach to the application of military force to ensure that versatility is not sacrificed by over-focusing the modernization effort. Yet, doctrine is not the only remedy that must be used to mitigate the Army's modernization risks. It must be complemented by an aggressive leader development program.

Leader development is a crucial link in mitigating the risk associated with modernizing the force. The army's attempt to leverage information must be accompanied by an equally aggressive program to exploit the intellectual capabilities of the soldiers and officers.

The importance of education in the preparation of an army for an unknown future becomes evident when we realize, first, that the Army's greatest leverage lies in the future and, second, that the lever is the mind.⁶⁵

The operational ramifications caused by the impact of technology on the spectrum of conflict require a mental agility of extraordinary breadth. The Army must develop leaders at all levels capable of applying innovative solutions to the myriad, complex problems anticipated in the future strategic environment. Dogmatic minds will magnify the effects of the temporal and asymmetrical advantages sought by potential enemies.

Intellectual versatility is the foundation of the Army's mission versatility, and it provides a conceptual counter to the use of asymmetrical strategies by potential opponents. Yet, much like doctrine, an aggressive and demanding leader development system cannot mitigate the risks associated with modernization independently. The structure of the future force must also contribute.

The diversity of the future strategic environment leads many critics to press for the creation of an "army of armies."⁶⁶ This concept requires a dedicated, trained and equipped force for each type of conflict, rather than adapting the total force to the specific demands of each different conflict. This approach would fragment and complicate the modernization effort among the separate armies. However, there are other approaches to force structure that could serve to mitigate the risks associated with modernization. The concept of outsourcing, the delegation of specific tasks to subordinate or peer organizations, is one approach.⁶⁷ The nation pursues outsourcing to a limited degree by maximizing the complementary effects of weapons and capabilities in assigning roles and missions amongst the services. It also pursues this concept by aligning with Allies that are expected to contribute specific types of forces to the various contingencies it faces. The nation and the Army must maximize the utility of outsourcing. The nation could reduce its risk by outsourcing certain types of contingencies to Allied nations. Structural changes within the Army would complement this effort by providing full time training, educational assistance and liaison as required. Similar to the equipment modernization concept of horizontal technological integration (HTI), the Army would form standing liaison teams capable of routinely and smoothly

inserting its technological levers directly into the command and control structure of another nation's forces. The U.S. Army provides the technological leverage while the host nation provides the manpower--formalizing a concept that Paddy Griffith says the U.S. has indirectly pursued since the Korean War.⁶⁸

It is possible that additional outsourcing efficiencies could be gained within America's Army by examining the mission of the National Guard. Rather than focusing fifteen enhanced brigades of the National Guard on conventional warfare, which requires significant equipment, training and modernization expenses, focus this force on assistance missions and light infantry roles. This allows the Guard to be trained more quickly at lower cost and focuses their mission on domestic or international disaster relief, and peacekeeping duties. By eliminating the follow-on forces required for reinforcement in a mid-to high-intensity conflict, the nation would assume some risk. However, this risk would be assumed in an area of acknowledged dominance and increasingly mitigated by the technologically increased lethality of the active, joint force -- which stands to benefit by the reduction in the cost of maintaining such an expensive National Guard.

Finally, the Army must examine the framework it uses to accept the risks of modernization. By continually focusing its modernization effort on averting the risk of conventional conflict, the Army may be inverting the risk equation. Concentrating on dominating a narrow portion of the spectrum of conflict only serves to encourage potential adversaries to pursue other options. The Army should scale back its ambitions for future conventional dominance until these "other options" are addressed. It is in

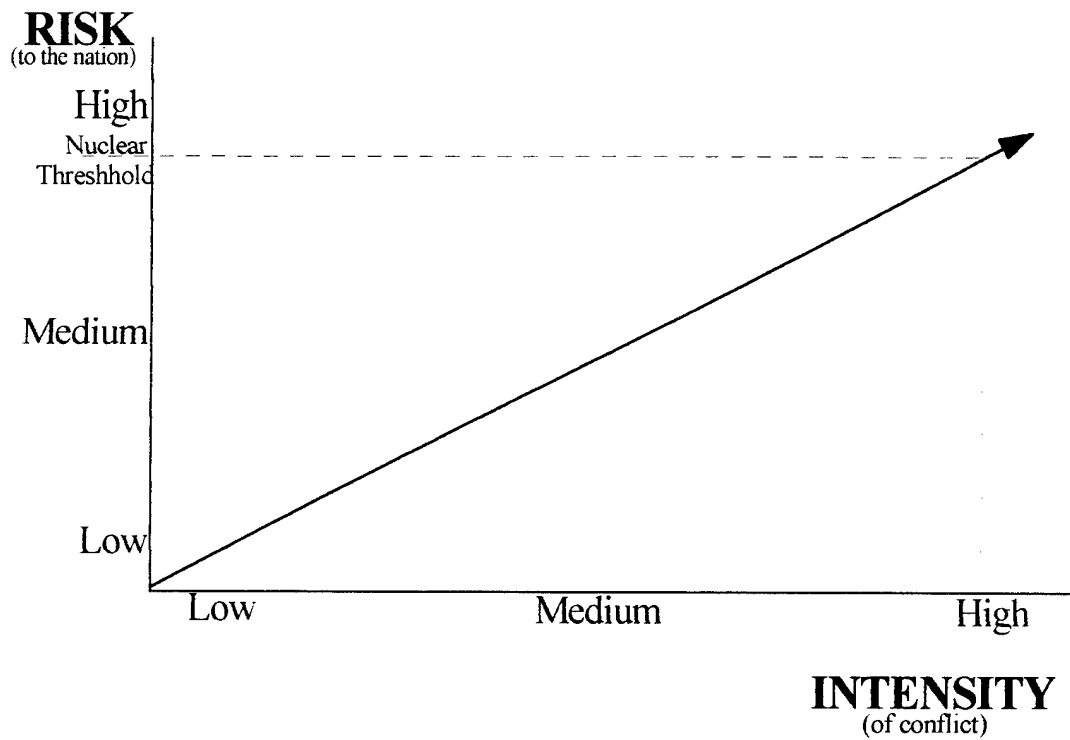
these “other options” that potential enemies will attempt to secure the advantages that asymmetry, temporal factors, and limited versatility offer to block the realization of U.S. national objectives. The greatest emerging threat to the nation and the force appears to be on the fringes of conventional conflict, in the areas of theater missile defense and the proliferation of weapons of mass destruction.⁶⁹ Confining other modernization initiatives to concept study and limited prototype production until dominance in these areas is as decisive as it is in the conventional area seems prudent.

Yet, the answer cannot be limited to a technological “silver bullet,” as these weapons will most assuredly not be wielded in a conventional sense. It must be accompanied by changes to the force structure that increase the Army’s capability and flexibility at the lower end of the spectrum. Options such as adding an additional Special Forces Group or increasing the available, deployable light infantry strength seem prudent given the nature of the envisioned future strategic environment. These measures should be instituted with an eye towards increasing the Army’s ability to physically control and constantly interact with the affected nation’s population -- an action that is vital to properly handling an OOTW scenario. Equally as important as increasing the number of soldiers able to deploy to OOTW environments, is the resolve to equip them with a technological dominance over any potential enemies. Future light forces must be every bit as capable as the currently envisioned future heavy force in defeating WMD and other technologically enhanced threats. They must possess these capabilities immediately upon deployment, as time will be at a premium in future scenarios.

Doctrinal flexibility, aggressive leader development, innovative force structure and a new outlook on risk acceptance are requirements in assessing the risk of developing a narrowly focused, high technology force. Measured in conventional terms, the risk associated with developing such a force appears to be relatively low. However, the continued, uneven impact of technology across the spectrum of conflict raises this risk daily.

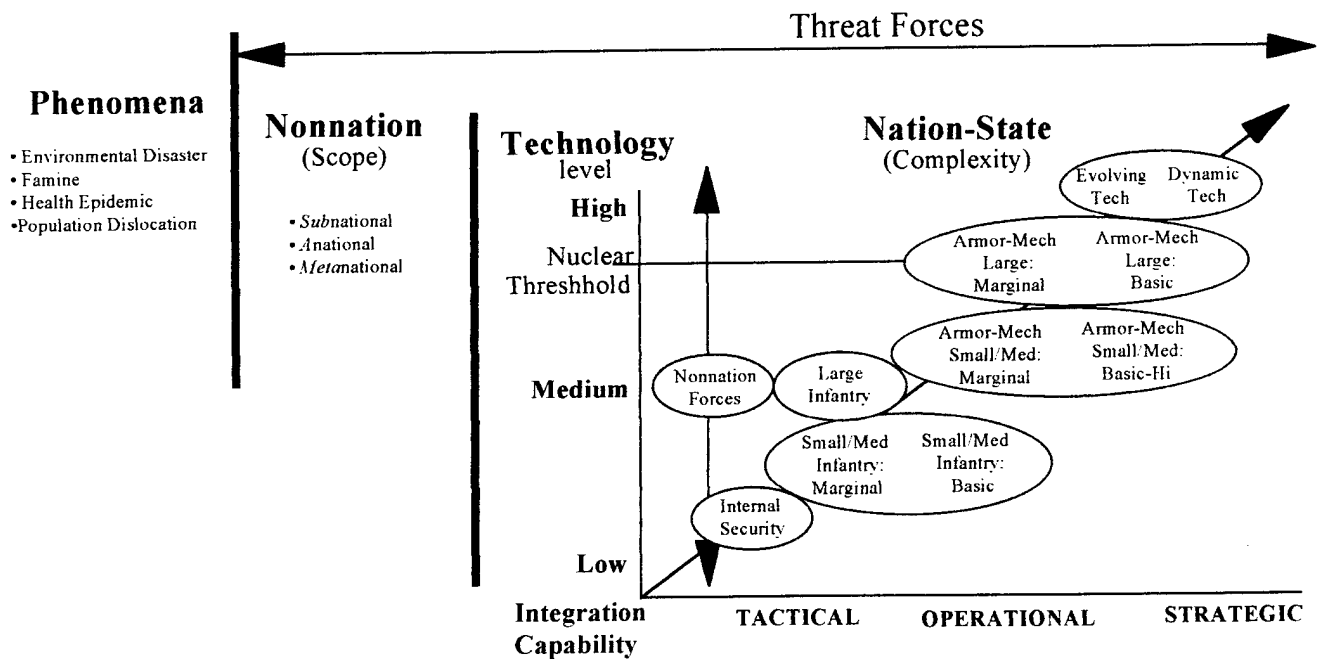
The apparent intellectual and acquisition fixation of the U.S. Army in developing a future force that is expressly designed to dominate the mid- to high-intensity fight, while marginalizing the risks traditionally associated with a low intensity opponent, risks encouraging the very type of conflict which it is least suited to wage. This fixation will prove harmless if the future enemy prepares to face the United States in a symmetrical, conventional manner; or allows U.S. forces the luxury of time to adapt to the unorthodox method it presents. Unfortunately, cooperative enemies will be hard to find in the wake of the Gulf War, and the lessons learned from that conflict will not be lost on those who wish to threaten U.S. interests.

Traditional Spectrum of Conflict



Traditional representation of the linear relationship between conflict intensity and national risk.

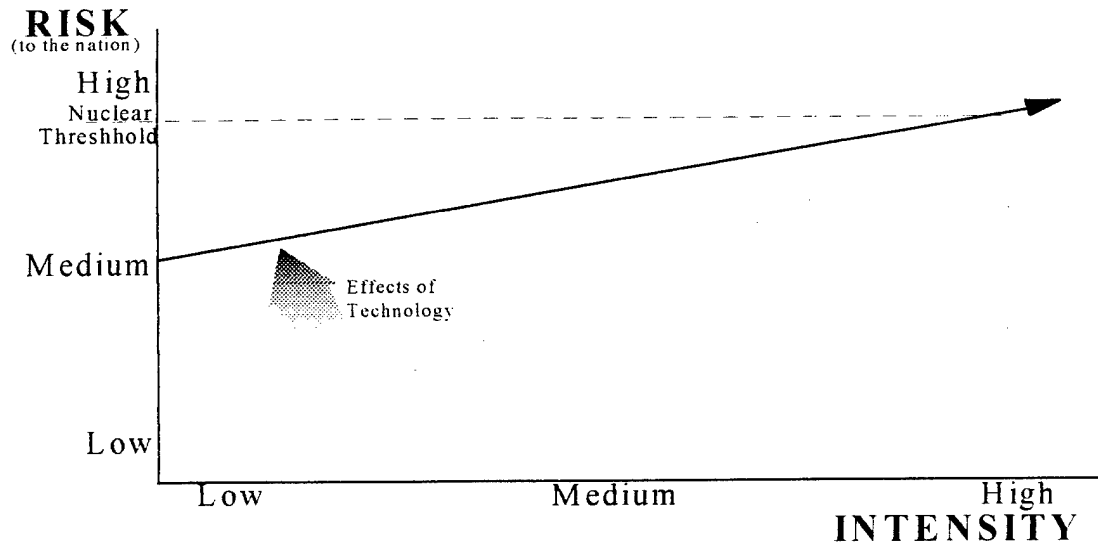
Threat Spectrum Model



Threat Spectrum Model, Figure 2-1, Pg 2-3,
TRADOC Pamphlet 525-5, Force XXI Operations

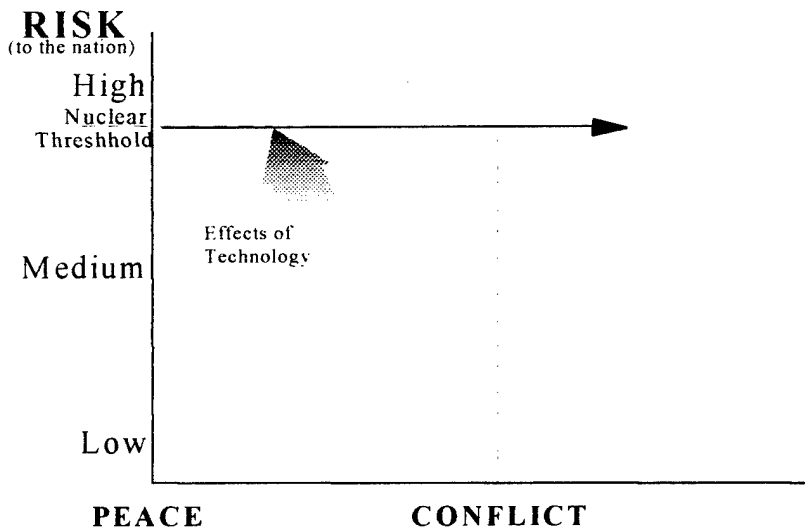
Emerging Spectrum of Conflict

Effect of Technology on the Spectrum of Conflict



Representation of the effects of technology mutating the traditional representation of the linear relationship between conflict intensity and national risk. This illustrates risk rising disproportionately with respect to the level of the intensity of the conflict.

Compression of the Spectrum of Conflict



Proliferation of technology and WMD is capable of pushing the associated level of national risk to uniform levels, rendering the traditional distinction made between levels of intensity irrelevant. This potentially compresses the spectrum to reflect either periods of peace or of conflict.

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- ¹ Sun Tzu, The Art of War, edited by Samuel B. Griffith, (London: Oxford University Press, 1963), p. 84.
- ² Eliot A Cohen, Making Do With Less, Or Coping With Upton's Ghost, (Carlisle Barracks, PA: U.S. Army War College, 1995), p. 6.
- ³ Department of the Army, FM 100-5 Operations, (Washington D.C.: Department of the Army, 1993), Figure 2-1, p 2-1.
- ⁴ Gordon Sullivan, and James Dubik, Envisioning Future Warfare, (Fort Leavenworth, KS: U.S. Army Command and General Staff College, 1995), p. 3.
- ⁵ Department of the Army, Force XXI: America's Army of the 21st Century, (Fort Monroe, VA: Louisiana Maneuvers Task Force, 1995), p. 4.
- ⁶ Sullivan and Dubik, p. 62.
- ⁷ David Jablonsky, The Owl of Minerva Flies At Twilight: Doctrinal Change and Continuity and The Revolution In Military Affairs, (Carlisle Barracks: U.S. Army War College), 1994 p.39.
- ⁸ Andrew F. Krepinevich, Restructuring for a New Era: Framing the Roles and Missions Debate, (Washington, DC: Defense Budget Project, 1995), pp. 44-46, and Earl H Tilford, Jr., The Revolution In Military Affairs: Prospects and Cautions, (Carlisle Barracks, PA: U.S. Army War College, 1995), p. 15.
- ⁹ Jeffrey Record, Ready For What And Modernized Against Whom?: A Strategic Perspective On Readiness And Modernization, (Carlisle Barracks, PA: U.S. Army War College, 1995), p. 15.
- ¹⁰ Samuel P. Huntington, "The Clash of Cultures?" Foreign Affairs, Summer 1993, p. 22.
- ¹¹ Ibid., pp 25-28.
- ¹² Ibid., p.29.
- ¹³ Ibid.
- ¹⁴ U.S. Army Training and Doctrine Command. TRADOC Pamphlet 525-5, Force XXI Operations: A Concept for the Evolution of Full-Dimensional Operations for the Strategic Army of the Early Twenty-First Century, (Fort Monroe, VA: U.S. Army Training and Doctrine Command, 1994), p. 2-1.
- ¹⁵ Robert D. Kaplan, "The Coming Anarchy," The Atlantic Monthly, February 1994, p. 46.

¹⁶ Ibid., p. 54.

¹⁷ Ibid., p. 58.

¹⁸ Ibid., p. 59.

¹⁹ Ibid., p. 60.

²⁰ Ibid., p. 63.

²¹ Ibid., p. 72.

²² Ibid., p. 74.

²³ TRADOC Pamphlet 525-5, p. 2-1 to 2-2.

²⁴ Alvin and Heidi Toffler, War and Anti-War: Survival At The Dawn Of The 21st Century, (New York: Little, Brown and Company, 1993), p. 18.

²⁵ Ibid., p. 25.

²⁶ Ibid., p. 90.

²⁷ Ibid.

²⁸ TRADOC Pamphlet 525-5, p. 2-5.

²⁹ Ibid., p. 2-3 to 2-4.

³⁰ Ibid., p 1-5.

³¹ Ibid., p 2-8.

³² Ibid., p 2-11.

³³ This comment refers to the views expressed on the cultural roots of warfare offered by John Keegan in the first chapter of his book, A History of Warfare. (New York: Alfred A. Knopf, 1993). It also refers to the emerging nature of future warfare as expressed by Dan Cordtz in his article "War in the 21st Century: The Streetfighter State - Will the U.S. be ready to fight enemies who don't play by the traditional rules?" Financial World, 164, no.18, 29 Aug 1995, 42-45, an article which leans heavily on the thoughts of Andrew Krepinevich. Additionally, it refers to the theme of a speech to the CGSC Class of '95 by Dr. Sam Sarkesian, "The Future of War," a lecture delivered on 19 October 1994, at Fort Leavenworth, KS. Finally, it refers to comments offered by A.J. Bacevich in "The Use of Force In Our Time" Wilson Quarterly, vol. XIX, no. 1, Winter 1995, 50-63.

³⁴ This was the constant whisper heard by Kevin Costner's character in the movie Field of Dreams which caused the character to undertake an irrational act (building a baseball diamond in the middle of an Iowa cornfield) in the hope it would produce a desirable, yet equally irrational, result (departed, past greats would come out of the adjacent cornfield and play the game they had loved as youths). The movie's analogy to developing a future Army should be both obvious and a cause for serious introspection.

³⁵ TRADOC Pamphlet 525-5, p.3-3.

³⁶ Ibid., pp. 3-4 to 3-8.

³⁷ Ibid., p. 3-8.

³⁸ Paraphrase of a written comment offered by of LTC Mike Burke during a review of a draft of this monograph.

³⁹ Ibid., p. 3-20.

⁴⁰ John L Romjue, From Active Defense to Airland Battle: The Development of Army Doctrine 1973-1982, (Fort Monroe, VA: U.S. Army Training and Doctrine Command, 1984), p. 25.

⁴¹ TRADOC Pamphlet 525-5, p. 2-8.

⁴² Department of the Army, The United States Army Modernization Plan Update (FY95-99), (Washington, D.C.: Department of the Army, 1994), p. 1.

⁴³⁴ Ibid., p. 19.

⁴³ Ibid., p. 21.

⁴⁵ Ibid., pp. 23-27.

⁴⁶ Ibid., pp. 35-38.

⁴⁷ Ibid., p. 31.

⁴⁸ Ibid., pp. 29-30.

⁴⁹ Andrew F. Krepinevich, The Army and Vietnam, (Baltimore: The Johns Hopkins University Press, 1986), p. 5.

⁵⁰ Department of the Army, The United States Army 1995 Modernization Plan, (Washington, D.C.: Department of the Army, 1994), p. A-10.

⁵¹ Record, p. 8.

⁵² Bernard B. Fall, Hell In A Very Small Place: The Siege of Dien Bien Phu. Fall. (New York: Da Capo Press, Inc., 1966), p. 101.

⁵³ TRADOC Pamphlet 525-5, p. 2-5.

⁵⁴ Tilford, p. 15.

⁵⁵ Wayne A. Downing, "New National Security Challenges," Managing Contemporary Conflict: Pillars of Success. edited by Max G. Manwarring and William J. Olson. (Boulder: Westview Press, Inc., 1996), p. 98.

⁵⁶ The comment of the Senior Observer appears in Patrecia Hollis' article "Cavazos on Training." FA Journal, vol 1, issue 1, (March-April 1996), p. 10. The idea of the effect of compacting the spectrum of conflict with respect to risk due to technological developments surfaced in a conversation with LTC Michael Combest, 28 Feb 96.

⁵⁷ FM 100-5, p. 2-9.

⁵⁸ A.J. Bacevich, "The Use of Force In Our Time." Wilson Quarterly, vol. XIX, no. 1, (Winter 1995), p. 61 and Kurtis D. Lohide, Desert Storm's Siren Song: Examining Revolution in Warfare, (Fort Leavenworth, KS : U.S. Army Command and General Staff College, 1994), p.37.

⁵⁹ This is the major theme of Krepinevich's book, The Army and Vietnam.

⁶⁰ Paraphrase of a comment made by Gordon Sullivan, America's Army: Into the Twenty-First Century, (Hollis, N.H.: Puritan Press, Inc., 1993), p. 15.

⁶¹ Alex Roland, The Technological Fix: Weapons and the Cost of War, (Carlisle Barracks, PA: U.S. Army War College, 1995), p. 17.

⁶² Carl von Clausewitz, On War, ed. by Michael Howard and Peter Paret, (Princeton: Princeton University Press, 1976), p 80.

⁶³ Sullivan and Dubik, p. 58.

⁶⁴ Jack F. Smith, Pentomic Doctrine: A Model for the Future? (Fort Leavenworth, KS: U.S. Army Command and General Staff College, 1994), p. 37.

⁶⁵ James J. Schneider, "What If We Fight Tonight?" Army, vol. 45, no.11, November 1995, p. 39.

⁶⁶ Brian Nichiporak, et. al., Information Technologies And The Future Of Land Warfare (Draft), (Santa Monica, CA: Rand Corporation, February 1994), p. 37.

⁶⁷ Francis Fukayama spoke of this concept at a briefing to selected SAMS faculty on 5 March 1996. His presentation was an effort to gather data on the potential advantages or disadvantages of a flatter hierarchical organization for the U.S. Army.

⁶⁸ Observation offered by Paddy Griffith. Forward Into Battle: Fighting Tactics From Waterloo to The Near Future. (Novato, CA: Presidio Press, 1991), p. 166.

⁶⁹ Bill Gertz, "Report on missile threat to U.S. too optimistic, Woolsey charges." Washington Times, March 15, 1996, Pg. 10. This article states that a recent national intelligence estimate that the continental U.S. is immune to missile attacks for the next 15-years is flawed. It claims that former CIA Director R. James Woolsey stated that it cannot be used to establish security policy, as Alaska and Hawaii and several U.S. allies are now within range of North Korean intermediate-range missiles. It also states that advanced technology is developed and stolen every day, making it more likely that rogue states will be more quickly able to deliver devastation than previously thought.

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